

## Report of the Botanic Gardens for the year 1973

### 1. ADMINISTRATION

The Botanic Gardens and the Parks & Trees Branch, PWD, were integrated to form the Parks & Recreation Division, PWD as of 1.7.73. Mr A. G. Alphonso, acting Director of the Botanic Gardens was appointed acting Deputy Commissioner of the Parks & Recreation Division with effect from 2.7.73. A number of posts were redesignated as shown below.

	<i>Redesignated Post</i>
Botanist	Curator
Horticultural Assistant	Assistant Curator
Junior Horticultural Assistant	Horticultural Assistant

Mr Quek Wai Yan, Assistant Curator, who was granted 3 years' no-pay leave to pursue a Diploma in Horticulture course at the Royal Botanic Gardens, Kew, resumed duty on 21.6.73.

### 2. GARDENS' MAINTENANCE

The Gardens' lawns were well-maintained throughout the year. Several areas were landscaped with flowering and foliage plants and many old plants were replaced by more vigorous specimens.

Additional road lights and spot lights were installed in the earlier part of the year to further improve the lighting facilities, however all spot-lights were switched off from November, in an effort to conserve electricity during the current energy crisis.

Over 110 offenders of the Environmental Public Health Act 1968 were summoned during the year.

### 3. HERBARIUM

The Herbarium facilities were fully made use of throughout the year by visiting botanists. About 202 specimens were identified for the public, and 1,878 specimens were sent out on loan to various institutions. 1,232 duplicates were sent out in exchange for 4,310 received from other herbaria.

During the year, 7,650 specimens were mounted, 1,028 old specimens were repaired, and 10,170 sheets were indexed. About 5,646 specimens were incorporated in the herbarium.

Several collecting trips were made in the year, details of which are given in Appendix II.

### 4. ORCHIDS

Twenty-five new orchid hybrids were described in 1973. Two of these, *Dendrobium Dzemal Bijedic* (*D. Tumphal* x *D. ostrinoglossum*) and *Dendrobium Rahah* (*D. Noor Aishah* x *D. Peggy Shaw*) were named in honour of the Prime

Minister of Yugoslavia and Toh Puan Rahah, wife of the Prime Minister of Malaysia, respectively, during their visit to the Gardens.

Three orchid hybrids were awarded prizes at the Orchid Show organised by the Orchid Society of South East Asia. They are:

Aranda Majula ( <i>Arachnis Maggie Oei x Vanda insignis</i> )	1st Prize
Paphiopedilum Shireen ( <i>Paphiopedilum glaucophyllum</i> x <i>Paph. philippinense</i> )	1st Prize
Vanda Kinloch Smith ( <i>Vanda Josephine x Vanda coerulea</i> )	2nd Prize

During the year 106 hybrid pods were harvested from the Gardens' nursery, 13 pods were received from local growers and 33 pods were received from the Royal Botanic Gardens, Sydney, for germination. 99 of these 152 pods produced viable seeds. A total of 1,141 flasks of orchid seedlings were transplanted into pots and 2,794 seedlings were removed from the seedling houses and grown into bigger pots.

260 plants were received from various institutions and private individuals in exchange for 10 seed pods, 4 flasks of seedlings and 189 orchid cuttings and plants.

A total of 31,875 orchid sprays were supplied to various organisations, government departments and statutory bodies.

## 5. NURSERIES

### a. Pot Plant Nursery

For the period January to September 1973, 191 requests were received for the loan of 7,635 potted plants for decoration purposes. Loan of potted plants were handled by the Logistics and Maintenance section from October 1973.

Production figures of plants at the Pot Plant Nursery are shown in Appendix I.

### b. Plant Introduction Nursery

A total of 662 species of plants were introduced through collections, gifts, exchanges, and purchases from various institutions, nurseries and private individuals. Several of the more promising species were sent to the Primary Production Department and to the Logistics and Maintenance section for future experimentation and propagation. Altogether, 289 plants of 70 species and varieties were distributed. Seeds of 11 species of plants were also supplied to the Logistics and Maintenance section. The plants included new varieties of roses and pot Chrysanthemums as well as seedlings of a fruit tree (*Artocarpus odoratissima*) well-known in the Philippines and Sabah, and which should become popular in Singapore.

## 6. DECORATIONS AND FLORAL ARRANGEMENTS

The Gardens assisted in decorations with orchids, flowering and foliage plants for the following:—

1. National Day Parade Float of "The Garden City".
3. National Day State Banquet.

3. The 50th Birthday Dinner for the Prime Minister organised by the National Trade Union Congress.
4. Meeting of the 4th ASEAN Permanent Committee on Commerce and Industry.
5. Orchid Show organised by the Orchid Society of South East Asia.

## 7. TREE PLANTING DAY

Tree Planting Day is an annual national event which serves to remind the public of the importance of growing trees.

This year's Tree Planting Day was held on Sunday, 4th November 1973. Tree-planting activities were organised in various constituencies. A total of 6,850 ornamental trees, 5,291 fruit trees and 8,450 shrubs and climbers were planted this year.

## 8. SCHOOL OF ORNAMENTAL HORTICULTURE

There is a total enrolment of 26 students in the School. Twelve of them are in their second year and 14 are in their first academic year.

A first year examination was conducted for the senior students in August.

The School prospectus was revised by a School Board Sub-Committee at the end of the year.

The School Board comprises of:—

Mr Lim Leong Geok — Chairman  
Mr A. G. Alphonso  
Mr Kee Chin Hin  
Mr Wong Yew Kwan  
Mr K. C. Chung  
Miss Kwok Mei Yong  
Mr Hardial Singh — Secretary

## 9. EDUCATIONAL ASSISTANCE AND TRAINING SCHEMES

Mr Djunaedi G. Widjaja of Indonesia, ASEAN Scholar in Botanic Studies underwent a two-month practical training course in the Gardens.

Four students from the University of Singapore and Nanyang University were given six weeks' practical experience in the Gardens as part of the Industrial and Business Orientation programme organised by the Science Council of Singapore.

Miss Artis Djusar of Indonesia was awarded a Colombo Plan Scholarship to pursue a six-month course in orchid culture in the Gardens.

Two students participating in the Youth Week in Commerce and Industry programme were attached to the Gardens for two days.

## 10. LIBRARY AND PUBLICATIONS

The Library, which maintains a valuable collection of botanical and horticultural publications is referred to by staff members, botanists and research workers preparing taxonomic revisions and floristic studies of this region. Interested members of the public may obtain permission from the Deputy Commissioner of Parks and Recreation to make use of the Library during normal office hours.

At the close of the year, the accessioned book collection totalled 9,878. There were 384 current titles of serial publications obtained from subscriptions and exchanges. Gifts received during the year numbered 8 periodical titles, 76 reprints and 18 books.

Volume 26, part II of the Gardens' Bulletin was published on 15 September 1973. There were 178 exchanges for the Gardens' Bulletin and the Botanic Gardens' Annual Report 1972.

#### 11. SALE OF PUBLICATIONS AND PLANTS

Revenue collected from the sale of botanical and horticultural publications amounted to \$2,039.20.

1,401 orchid seedlings and 1,257 orchid plants and cuttings were sold for a total sum of \$7,874.00.

#### 12. VISITORS

H E Mr Dzemal Bijedic, Prime Minister of Yugoslavia and Madame Razija Bijedic visited the Gardens on 18.3.73. An orchid, *Dendrobium Dzemal Bijedic* was named in honour of the Prime Minister.

Mr R. J. Tizard, Minister of State for Health Services, New Zealand, presented and planted a Pohutukawa tree in the Gardens. He was accompanied by Mrs Tizard.

Toh Puan Rahah, wife of the Prime Minister of Malaysia was welcomed at the Gardens on 15.11.73. She chose an orchid, *Dendrobium Rahah*, to be named after her.

Other eminent visitors included:—

Mr George Avery, Director Emeritus, Brooklyn Botanic Gardens and Mrs Avery.

Mr J. J. Aves, Director of Parks, Pretoria, South Africa.

Mr Ian D. Galloway, Director of Parks, Wellington, New Zealand.

Professor H. Kamemoto, University of Hawaii, Honolulu, U.S.A.

Professor Charles H. Lamoureux, University of Hawaii, Honolulu, U.S.A.

#### 13. NATURE RESERVES

The present Nature Reserves constitute the Bukit Timah Reserve, the Catchment Area, and Labrador Reserve. Kranji Reserve was deleted late in the year.

The Bukit Timah Nature Reserve comes under the supervision of the Botanic Gardens. The Labour force concentrated on maintenance and repair work during the year. Over 400 steps along the footpaths were repaired and a fence was installed along a precipitous boundary aligning one granite quarry. Danger signs were posted to alert the public of dynamite blasting at specified times by the quarries. A new set of benches and 18 litter bins were installed. The Reserve is closed to public vehicles at the following times:—

7 a.m. — 8 p.m. on Sundays and Public Holidays.

4 p.m. — 8 p.m. on weekdays.

2 p.m. — 8 p.m. on Saturdays.

Earlier in the year, paths and bridges in Kranji Reserve were repaired when they were damaged during high tides.

A new Board of Trustees for the Nature Reserves was set up under the Nature Reserves (Amendment) Act of 1973.

The Board members are:—

Mr Quek Kiah Huat (Chairman).

Mr Lim Leong Geok.

Mr A. G. Alphonso.

Dr Hsuan Keng.

Mr Chan Chor Cheung.

Mr Sie Chu Hua.

Mr Wong Yew Kwan.

Mr Kee Chin Hin.

Mr Christopher Giles Roche.

Dr Tay Kah Seng.

Dr Chang Kiaw Lan was nominated Honorary Secretary by the Board.

#### 14. METEOROLOGICAL RECORDS

Temperature, rainfall and humidity records for the years 1969-1973 are given in Appendix III. The figures were recorded at the Botanic Gardens and at the Bukit Timah Nature Reserve.

## APPENDIX I

**PRODUCTION FIGURES OF POTTED PLANTS AT  
THE POT PLANT NURSERY FOR 1973**

	Month				Botanic Gardens Nursery	Ulu Pandan Nursery	Total
	January	February	March	April			
January	..	..	..	..	1,090	1,295	2,385
February	..	..	..	..	895	850	1,745
March	..	..	..	..	965	1,015	1,980
April	..	..	..	..	785	1,032	1,817
May	..	..	..	..	885	508	1,393
June	..	..	..	..	1,060	1,590	2,650
July	..	..	..	..	1,075	1,166	2,241
August	..	..	..	..	2,230	1,170	3,400
September	..	..	..	..	2,836	1,913	4,749
October	..	..	..	..	1,400	880	2,280
November	..	..	..	..	1,250	740	1,990
December	..	..	..	..	520	887	1,409
				Total ..			28,037

## APPENDIX II

Personnel	Date	Locality	Collection
Mohd Shah, Sanusi bin Sarih, A. Mookya and Ali bin A. Rahim	29th January 1973 to 4th February 1973	Gua Musang, Ulu Sg. Ketil, Sg. Kundor, Bertam, Gunong Brong, Batu Bang, Ulu Kelantan	85 nos. for herbarium, 309 orchid plants, 148 other living plants.
Miss Lee Wai Chin, Sanusi bin Sarih, A. Mookya and Ahmad bin Shukor	21st February 1973 to 1st March 1973	Penang, Kedah and Perak	202 orchid plants, 224 other living plants.
Mr. Hardial Singh and Samsuri bin Ahmad	2nd March 1973 to 6th March 1973	Mersing, Endau, Jemaluang, Pahang	103 nos. for herbarium.
Mr. Ng Kok Wah, Sanusi bin Sarih and Ahmad bin Shukor	7th March 1973 to 10th March 1973	Pahang, Trengganu	423 orchid plants, 41 other living plants.
Mohd Shah, Samsuri bin Ahmad with Dr. E.A. Heaslett	11th March 1973	Gunong Pantai East, Johore	12 nos. for herbarium, 38 orchid plants.
Mohd. Shah, Mohd Ali with Dr. R.D. Hill (University of Singapore)	10th June 1973 to 15th June 1973	Gunong Ulu Kali, Genting Highlands, Anak Takun, Templer Park, Ulu Gombak	154 nos. for herbarium, 63 orchid plants.
Mr. A. G. Alphonso and Sanusi bin Sarih	5th November 1973 to 17th November 1973	Perak, Penang, Kedah and Perlis	772 orchid plants, 244 other living plants.
Mohd Shah, Sanusi bin Sarih, Ahmad bin Shukor and Said bin Jailani	21st November 1973 to 1st December 1973	Gunong Lesong, Sg. Sawak and Sg. Rompin, Pahang	75 nos. for herbarium, 546 orchid plants, 55 other living plants.
Total:			429 nos. for herbarium 2,353 orchid plants 712 other living plants.

## APPENDIX IIIa

1969

## METEOROLOGICAL REPORT

Reading daily at 9.30 a.m. Local Time at Botanic Gardens Office from 1-1-69 to 31-12-69

Month	Total Rainfall	Highest fall in 24 hours	No. of Days Rainfall	Mean Maximum Temp.	Highest Maximum Temp.	Mean Minimum Temp.	Lowest Minimum Temp.	Mean Temp. Dry Bulb	Mean Temp. Wet Bulb	R.H.	%
	inches	inches		°F	°F	°F	°F	°F	°F	°F	%
January	8.02	2.64	13	87.8	92.0	73.9	71.5	81.4	76.9	89.0	
February	8.33	1.64	11	89.7	93.0	74.4	72.0	81.7	77.2	80.8	
March	5.71	1.97	12	89.5	92.5	75.1	72.5	82.4	78.0	82.0	
April	5.67	1.72	16	86.3	93.0	76.2	73.5	82.9	79.0	84.0	
May	10.94	2.31	21	89.6	92.5	76.7	74.5	82.8	79.6	86.5	
June	5.99	1.86	14	88.2	91.0	76.4	73.0	76.4	74.7	86.9	
July	7.43	2.15	14	85.9	90.0	75.8	72.5	81.0	77.4	84.6	
August	4.11	0.91	17	85.9	95.2	75.2	72.5	80.5	76.6	83.2	
September	6.84	1.65	18	87.4	90.2	76.0	73.5	82.0	77.3	80.4	
October	3.92	1.19	13	87.5	90.2	75.3	73.0	81.7	76.8	79.7	
November	8.77	1.71	18	86.0	90.0	74.7	73.0	80.1	76.4	83.9	
December	23.23	9.15	18	84.8	90.0	73.4	70.0	78.8	75.5	85.2	
Total	98.96	28.90	185	..	..	..	..	..	..	..	..
Mean	..	..	..	87.4	91.6	75.3	72.6	81.0	77.1	83.9	

## APPENDIX IIIb

1970

## METEOROLOGICAL REPORT

Reading daily at 9.30 a.m. Local Time at Botanic Gardens Office from 1-1-70 to 31-12-70

Month	Total Rainfall	Highest fall in 24 hours	No. of Days Rainfall	Mean Maximum Temp.	Highest Maximum Temp.	Mean Minimum Temp.	Minimum Temp.	Lowest Minimum Temp.	Mean Temp. Dry Bulb	Mean Temp. Wet Bulb	R.H. %
	inches	inches		°F	°F	°F	°F	°F	°F	°F	%
January	9.54	2.16	14	86.3	89.5	73.9	70.5	78.8	75.5	75.4	80.9
February	2.81	1.54	7	87.2	91.0	74.0	71.5	79.9	79.9	75.4	80.1
March	9.63	2.66	12	88.6	92.2	75.5	73.0	82.6	82.6	76.4	85.5
April	5.47	1.40	20	86.7	91.5	75.2	72.0	82.6	82.6	78.4	83.1
May	9.68	3.00	16	88.8	92.5	76.0	74.0	82.5	82.5	79.1	85.2
June	6.66	1.62	15	88.5	91.0	75.5	72.0	81.5	81.5	77.3	86.6
July	5.34	2.31	11	87.3	91.0	75.8	71.5	81.1	81.1	77.2	83.6
August	4.29	1.42	13	87.8	91.0	75.8	73.0	81.1	81.1	77.3	82.5
September	6.46	1.58	14	87.0	91.0	75.0	72.5	80.7	80.7	76.8	83.3
October	12.66	2.50	18	86.6	89.0	71.7	73.0	79.9	79.9	77.0	87.0
November	10.18	2.85	17	85.7	88.5	74.7	73.0	79.7	79.7	76.5	85.9
December	9.79	2.87	18	86.1	90.5	75.3	71.0	79.6	79.6	76.2	84.8
Total	..	92.51	175	..	..	..	..	..	..	..	..
Mean	..	..	..	87.2	90.7	74.9	72.3	80.8	80.8	76.9	84.0

## APPENDIX IIIc

1971

## METEOROLOGICAL REPORT

Reading daily at 9.30 a.m. Local Time at Botanic Gardens Office from 1-1-71 to 31-12-71

Month	Total Rainfall inches	Highest fall in 24 hours inches	No. of Days Rainfall	Mean Maximum Temp. °F	Highest Maximum Temp. °F	Mean Minimum Temp. °F	Lowest Minimum Temp. °F	Mean Temp. Dry Bulb °F	Mean Temp. Wet Bulb °F	R.H. %
January	2.28	0.45	13	83.8	90.5	79.7	69.5	75.1	74.1	83.7
February	4.03	1.14	11	86.4	89.0	73.3	71.0	78.6	75.0	84.9
March	5.33	1.90	10	88.1	91.0	74.2	70.0	77.7	75.9	80.4
April	2.36	0.84	8	89.7	92.0	75.1	74.0	83.0	77.4	80.8
May	5.73	0.93	13	88.6	93.0	75.8	73.0	82.4	78.6	82.0
June	4.53	1.38	12	88.2	90.5	74.8	71.0	81.2	77.8	84.9
July	7.21	1.64	13	87.9	90.5	74.7	72.0	81.2	77.4	82.9
August	7.43	1.10	22	85.7	91.0	74.1	72.0	79.9	75.1	83.0
September	6.04	3.40	10	86.7	90.0	75.2	71.5	81.0	77.3	80.3
October	5.67	1.47	18	87.3	91.5	74.7	71.0	80.8	77.0	83.5
November	7.06	1.19	17	86.5	89.0	74.1	72.0	79.1	75.8	84.6
December	12.95	4.50	23	83.9	88.0	73.5	70.5	77.3	75.0	89.8
Total	70.62	19.94	170	..	..	..	..	..	..	..
Mean	..	..	..	86.9	90.5	74.9	71.5	79.8	76.4	83.4

## APPENDIX IIId

1972

## METEOROLOGICAL REPORT

Reading daily at 9:30 a.m. Local Time at Botanic Gardens Office from 1-1-72 to 31-12-72

Month	Total Rainfall	Highest fall in 24 hours	No. of Days Rainfall	Mean Maximum Temp.	Highest Maximum Temp.	Mean Minimum Temp.	Lowest Minimum Temp.	Mean Temp. Dry Bulb	Mean Temp. Wet Bulb	R.H. %
	inches	inches		°F	°F	°F	°F	°F	°F	%
January	2.55	1.61	8	86.4	88.0	72.5	69.0	78.2	74.6	84.1
February	8.15	2.86	12	88.6	95.0	74.0	71.0	80.3	76.2	82.1
March	5.97	2.00	12	88.7	92.5	74.0	71.0	80.5	76.3	82.5
April	14.27	1.69	22	87.4	90.5	74.5	72.5	80.1	78.1	88.8
May	5.13	3.00	11	88.2	91.0	76.0	74.0	82.7	79.0	84.8
June	5.28	1.65	10	87.2	91.5	76.8	72.0	82.3	78.5	84.3
July	0.54	0.26	4	88.2	93.0	78.3	73.5	83.4	78.3	79.0
August	7.30	1.22	13	87.1	92.0	76.5	70.5	81.7	77.8	83.4
September	12.65	2.34	13	83.4	89.0	57.6	72.0	81.0	77.4	82.1
October	3.09	1.64	10	88.3	90.0	75.8	74.0	83.3	78.7	80.8
November	6.83	1.32	17	86.2	90.0	75.1	72.5	80.0	77.7	83.3
December	10.47	3.11	22	84.7	90.0	74.5	71.5	79.2	76.6	88.9
Total	82.23	22.70	151	..	..	..	..	..	..	..
Mean	..	..	..	87.0	91.0	75.3	72.0	81.1	77.4	83.7

## APPENDIX IIIe

1973

## METEOROLOGICAL REPORT

Reading daily at 9.30 a.m. Local Time at Botanic Gardens Office from 1-1-73 to 31-12-73

Month	Total Rainfall	Highest fall in 24 hours	No. of Days Rainfall	Mean Maximum Temp.	Highest Maximum Temp.	Mean Minimum Temp.	Lowest Minimum Temp.	Mean Temp. Dry Bulb	Mean Temp. Wet Bulb	R.H.	%
	inches	inches		°F	°F	°F	°F	°F	°F	°F	%
January	7.10	1.87	11	85.5	89.5	74.6	71.0	79.4	76.2	85.4	
February	8.13	2.12	17	86.5	90.0	75.4	72.5	80.8	77.5	85.6	
March	10.56	3.93	12	87.5	90.5	75.6	74.0	81.0	78.1	86.9	
April	9.97	3.15	15	87.5	92.0	73.9	74.5	81.0	78.3	88.0	
May	8.21	1.90	14	87.1	92.0	76.1	73.5	82.0	78.4	84.5	
June	3.90	0.88	14	87.3	92.0	77.1	73.5	81.7	78.7	85.8	
July	7.11	2.72	10	87.7	92.0	76.8	72.5	82.2	78.4	83.8	
August	9.13	2.41	20	85.9	90.0	75.0	72.5	80.2	76.8	85.9	
September	8.89	1.42	20	84.9	89.5	75.0	72.0	79.7	77.1	84.9	
October	6.80	2.70	15	86.0	89.5	77.9	72.0	80.6	77.6	86.0	
November	11.22	3.20	18	82.7	91.0	74.9	73.0	79.8	77.3	89.2	
December	6.83	1.36	15	82.6	87.0	73.4	71.0	75.3	75.5	91.6	
Total	..	97.85	27.66	181	..	..	..	..	..	..	..
Mean	..	..	..	..	85.9	90.4	75.5	72.7	80.5	77.5	86.5

## APPENDIX III

1969

## METEOROLOGICAL REPORT

Reading daily at 8.00 a.m. Local Time at 'Orchid Enclosure' from 1-1-69 to 31-12-69

Month	Total Rainfall	Highest fall in 24 hours	No. of Days Rainfall	Mean Maximum Temp.	Highest Maximum Temp.	Mean Minimum Temp.	Lowest Minimum Temp.	Mean Temp. Dry Bulb	Mean Temp. Wet Bulb	R.H. %	°F
January	7.54	2.66	14	90.1	93.5	75.5	70.5	75.0	74.2	96.2	
February	8.47	2.22	11	90.2	93.2	73.2	72.0	75.4	74.0	95.6	
March	5.95	2.08	13	90.8	94.5	74.3	70.0	76.3	75.4	95.6	
April	6.30	1.72	16	90.2	94.0	75.1	72.5	77.9	77.0	95.8	
May	9.80	2.46	20	90.4	93.5	76.0	73.8	78.6	77.7	95.8	
June	6.28	1.98	15	89.7	94.0	75.8	73.5	78.2	77.2	95.4	
July	7.83	2.19	14	87.3	94.5	73.7	69.0	76.7	76.0	96.4	
August	4.63	0.78	19	86.9	92.0	84.1	71.5	76.2	75.5	96.9	
September	7.32	1.66	18	88.0	90.5	74.9	72.5	77.8	76.7	95.4	
October	4.27	1.26	11	88.7	92.5	74.3	72.5	76.8	75.9	95.8	
November	8.51	1.40	19	87.8	92.5	73.9	73.3	76.9	75.5	96.4	
December	25.53	8.98	19	86.7	90.2	72.4	69.5	75.0	74.4	97.0	
Total	102.43	29.39	189	..	..	..	..	..	..	..	
Mean	..	..	..	88.9	92.9	74.5	71.7	76.7	75.8	96.0	

## APPENDIX IIIg

1970

## METEOROLOGICAL REPORT

Reading daily at 8.00 a.m. Local Time at 'Orchid Enclosure' from 1-1-70 to 31-12-70

Month	Total Rainfall	Highest fall in 24 hours	No. of Days Rainfall	Mean Maximum Temp.	Highest Maximum Temp.	Mean Minimum Temp.	Lowest Minimum Temp.	Mean Temp. Dry Bulb	Mean Temp. Wet Bulb	R.H.	%
	inches	inches		°F	°F	°F	°F	°F	°F	°F	%
January	9.91	2.34	14	88.6	92.0	72.5	69.5	74.7	74.2	96.5	
February	2.56	1.61	7	89.4	93.0	72.3	68.0	74.5	73.7	96.9	
March	9.88	2.70	13	90.2	94.5	74.3	72.0	76.2	75.2	95.0	
April	9.31	1.58	21	89.9	93.0	74.4	71.2	84.6	76.7	96.5	
May	8.03	2.51	16	89.2	93.0	77.4	73.0	78.6	77.2	96.4	
June	7.31	1.76	15	88.8	93.0	74.0	71.5	81.1	77.1	92.2	
July	4.70	2.29	9	85.2	91.5	74.3	71.0	77.6	76.3	94.4	
August	4.94	1.13	12	87.5	93.0	74.2	66.5	77.4	76.5	94.9	
September	6.55	1.58	12	87.7	90.5	74.9	72.0	77.3	76.2	94.6	
October	11.67	2.45	18	86.6	90.0	74.6	73.0	78.4	73.7	94.6	
November	9.32	2.79	18	87.4	91.5	74.0	72.5	76.7	75.8	96.0	
December	9.66	2.65	18	87.9	92.0	73.4	70.0	75.5	74.9	97.2	
Total	93.84	25.39	173	..	..	..	..	..	..	..	..
Mean	..	..	..	88.2	92.3	74.2	70.9	77.7	75.6	95.4	

## APPENDIX III

1971

## METEOROLOGICAL REPORT

Reading daily at 8.00 a.m. Local Time at 'Orchid Enclosure' from 1-1-71 to 31-12-71

Month	Total Rainfall	Highest fall in 24 hours	No. of Days Rainfall	Mean Maximum Temp.	Highest Maximum Temp.	Mean Minimum Temp.	Lowest Minimum Temp.	Mean Temp. Dry Bulb	Mean Temp. Wet Bulb	R.H.	%
	inches	inches		°F	°F	°F	°F	°F	°F	°F	%
January	2.34	0.48	13	85.5	92.5	69.3	69.0	73.7	72.5	95.8	
February	3.88	1.19	11	87.8	91.0	72.4	70.5	73.7	73.2	96.5	
March	5.19	1.68	11	89.2	93.0	72.7	68.0	75.0	74.2	96.2	
April	3.26	1.20	10	90.7	93.5	74.2	73.0	76.4	75.8	97.0	
May	5.92	0.93	13	89.5	94.5	75.4	73.0	77.8	76.8	96.0	
June	4.87	1.69	11	88.6	92.0	74.6	70.5	76.7	75.8	95.7	
July	6.61	1.44	13	88.3	91.5	73.9	71.0	76.0	75.3	97.0	
August	6.97	1.54	22	86.4	91.5	73.7	71.5	75.3	74.6	96.7	
September	6.39	2.36	8	87.8	92.5	73.5	71.0	76.9	76.2	96.6	
October	5.31	1.44	21	88.5	94.0	72.7	69.9	76.1	75.5	95.5	
November	6.19	1.21	19	88.4	91.5	71.9	70.0	75.4	74.3	95.0	
December	12.98	3.78	22	85.8	90.5	71.4	69.8	74.3	73.7	97.0	
Total	69.91	18.94	174	..	..	..	..	..	..	..	..
Mean	..	..	..	88.0	92.3	73.0	70.6	75.6	74.8	96.3	

## APPENDIX III

1972

## METEOROLOGICAL REPORT

Reading daily at 8.00 a.m. Local Time at 'Orchid Enclosure' from 1-1-72 to 31-12-72

Month	Total Rainfall	Highest fall in 24 hours	No. of Days Rainfall	Mean Maximum Temp.	Highest Maximum Temp.	Mean Minimum Temp.	Lowest Minimum Temp.	Mean Temp. Dry Bulb	Mean Temp. Wet Bulb	R.H.	%
	inches	inches		°F	°F	°F	°F	°F	°F	°F	%
January	2.58	1.63	8	85.0	92.0	71.0	68.5	72.9	71.9	95.5	
February	6.36	2.70	12	82.8	93.0	71.8	68.5	74.3	73.7	96.9	
March	6.31	2.08	12	91.0	94.0	72.8	68.0	74.4	73.7	96.7	
April	12.27	1.42	22	88.3	92.0	71.9	69.5	76.7	76.0	96.8	
May	4.26	2.51	11	90.0	93.0	73.5	71.5	78.7	77.9	96.7	
June	5.39	1.52	9	89.8	92.5	74.1	70.0	79.1	78.0	95.2	
July	0.48	0.24	3	90.7	93.0	75.6	72.0	80.1	78.4	92.3	
August	4.74	1.42	12	89.4	92.5	74.1	70.0	78.0	77.5	93.5	
September	11.54	2.32	15	88.3	92.0	71.9	71.0	78.7	77.5	94.4	
October	3.16	1.46	11	90.7	93.0	74.6	72.5	79.0	77.8	94.7	
November	7.31	1.37	18	89.2	94.0	73.2	71.0	77.9	76.9	95.8	
December	10.10	2.88	22	86.6	90.5	72.7	70.5	76.5	75.8	96.8	
Total	..	74.50	21.55	155	..	..	..	..	..	..	..
Mean	..	..	..	..	88.5	92.6	73.1	70.3	77.2	76.3	95.4

## APPENDIX IIIj

1973

## METEOROLOGICAL REPORT

Reading daily at 8.00 a.m. Local Time at School of Ornamental Horticulture from 1-1-73 to 31-12-73

Month	Total Rainfall inches	Highest fall in 24 hours inches	No. of Days Rainfall	Mean Maximum Temp. °F	Highest Maximum Temp. °F	Mean Minimum Temp. °F	Lowest Minimum Temp. °F	Mean Temp. Dry Bulb °F	Mean Temp. Wet Bulb °F	R.H. %
January	7.15	1.84	11	84.9	92.0	72.7	70.0	76.6	75.7	95.9
February	7.37	1.86	18	89.0	92.0	73.5	71.0	76.9	76.2	97.2
March	9.61	3.92	12	89.9	93.0	73.3	71.5	77.3	76.5	96.2
April	9.59	2.72	15	89.2	92.5	73.3	71.5	78.7	77.9	96.3
May	7.72	1.78	14	89.0	93.0	73.5	71.0	79.1	78.3	96.5
June	4.27	0.63	12	89.3	93.5	74.8	71.0	79.7	78.6	94.7
July	7.15	2.43	10	90.1	93.5	74.5	71.0	79.6	78.3	93.6
August	9.46	3.01	18	87.5	92.0	73.2	70.0	77.8	76.9	95.7
September	8.62	1.21	21	86.8	92.0	73.0	70.0	77.4	76.5	95.8
October	7.36	2.48	15	88.5	93.0	73.5	70.5	77.9	76.9	95.2
November	11.79	3.36	18	88.3	93.0	73.2	71.5	77.2	76.5	97.2
December	6.03	1.26	16	85.2	90.0	71.6	70.0	75.3	74.4	96.2
Total	96.12	29.50	180	..	..	..	..	..	..	..
Mean	..	..	..	88.1	92.5	73.3	70.8	77.8	76.9	95.8

## APPENDIX IIIk

1969

## METEOROLOGICAL REPORT

Reading daily at 8.00 a.m. Local Time at Bukit Timah from 1-1-69 to 31-12-69

Month	Total Rainfall	Highest fall in 24 hours	No. of Days Rainfall	Mean Maximum Temp.	Highest Maximum Temp.	Mean Minimum Temp.	Lowest Minimum Temp.	Mean Temp. Dry Bulb	Mean Temp. Wet Bulb	°F	°F	°F	°F	%	R.H.	
inches	inches															
January	8.70	3.20	15	85.2	89.0	75.5	69.5	77.0	75.0	90.4	..	..	..	..	..	..
February	7.29	1.96	12	86.2	89.5	75.6	70.7	76.3	74.0	88.7	..	..	..	..	..	..
March	13.43	3.47	13	86.8	90.4	73.4	69.0	76.7	74.4	80.1	..	..	..	..	..	..
April	12.96	3.47	15	87.0	91.0	74.8	71.8	78.7	76.4	90.6	..	..	..	..	..	..
May	18.65	3.47	19	88.2	91.6	74.4	70.2	80.4	77.3	86.2	..	..	..	..	..	..
June	10.06	3.20	10	87.2	90.0	75.2	71.0	78.9	76.6	89.9	..	..	..	..	..	..
July	12.87	3.20	14	85.5	89.3	73.0	68.0	77.5	75.6	91.2	..	..	..	..	..	..
August	10.52	1.52	18	89.0	89.0	73.5	68.0	77.6	75.4	90.3	..	..	..	..	..	..
September	13.62	3.20	12	87.1	89.5	75.0	70.5	78.5	75.8	89.3	..	..	..	..	..	..
October	10.22	3.20	13	86.9	90.0	74.1	69.6	77.8	75.4	89.6	..	..	..	..	..	..
November	13.88	2.40	18	86.9	90.1	73.9	70.2	76.7	74.5	87.7	..	..	..	..	..	..
December	25.50	7.85	17	85.0	89.5	72.4	67.5	76.6	74.4	89.6	..	..	..	..	..	..
Total	..	157.70	40.14	176	..	..	..	..	..	..	..	..	..	..	..	..
Mean	..	..	..	..	86.5	89.9	74.0	69.7	77.7	75.4	88.6	..	..	..	..	..

## APPENDIX III

1970

## METEOROLOGICAL REPORT

Reading daily at 8.00 a.m. Local Time at Bukit Timah from 1-1-70 to 31-12-70

Month	Total Rainfall	Highest fall in 24 hours	No. of Days Rainfall	Mean Maximum Temp.	Highest Maximum Temp.	Minimum Temp.	Lowest Minimum Temp.	Mean Temp. Dry Bulb	Mean Temp. Wet Bulb	R.H.	%
	inches	inches		°F	°F	°F	°F	°F	°F	°F	%
January	11.81	3.20	10	85.4	89.0	73.0	69.8	77.0	74.9	91.0	
February	4.07	3.47	3	85.5	89.8	72.8	69.9	76.6	74.6	90.3	
March	11.23	2.50	11	87.7	90.7	73.6	68.5	77.3	75.1	90.1	
April	7.37	1.03	19	87.1	89.8	74.2	71.0	78.7	76.1	88.1	
May	12.63	1.72	18	87.6	90.9	75.3	72.0	80.2	76.5	83.9	
June	11.55	2.22	13	86.5	89.0	75.1	70.0	79.8	76.6	86.3	
July	4.49	1.46	11	86.3	88.5	75.5	71.5	76.4	75.2	87.8	
August	6.94	2.35	10	86.3	88.5	75.4	71.0	77.3	75.8	90.2	
September	9.85	2.27	14	86.8	89.0	75.1	71.0	78.3	75.8	89.4	
October	7.84	1.55	19	83.7	90.5	77.0	71.0	77.5	75.3	88.5	
November	10.18	2.50	16	86.4	89.0	75.0	72.5	77.7	75.3	89.5	
December	13.73	2.50	15	86.0	89.5	73.7	60.5	76.8	74.8	86.0	
Total	111.69	26.77	159	..	..	..	..	..	..	..	..
Mean	..	..	..	86.3	89.5	74.6	69.9	77.8	75.5	88.4	

## APPENDIX IIIm

1971

## METEOROLOGICAL REPORT

Reading daily at 8.00 a.m. Local Time at Bukit Timah from 1-1-71 to 31-12-71

Month	Total Rainfall	Highest fall in 24 hours	No. of Days Rainfall	Mean Maximum Temp.	Highest Maximum Temp.	Mean Minimum Temp.	Minimum Temp.	Mean Temp. Dry Bulb	Mean Temp. Wet Bulb	°F	°F	°F	°F	%	
January	3.11	0.70	10	82.0	88.0	71.4	68.0	74.1	72.1	90.4					
February	4.26	1.22	10	84.8	90.0	71.4	70.0	74.0	72.2	91.6					
March	10.06	3.75	10	85.9	90.0	70.0	70.0	75.4	73.4	90.7					
April	4.93	1.46	7	87.9	90.5	71.3	71.0	78.2	75.7	88.7					
May	4.56	1.37	15	87.6	91.5	74.6	70.0	79.6	76.1	86.1					
June	3.88	1.28	14	86.2	89.5	73.5	70.0	78.8	75.7	85.5					
July	5.96	1.80	12	86.4	89.0	73.9	70.5	78.7	76.0	87.5					
August	7.98	1.60	17	85.1	90.0	73.5	70.0	77.6	75.2	89.0					
September	5.03	2.96	8	86.3	89.7	74.7	70.6	78.4	76.1	89.8					
October	4.85	0.79	19	87.0	92.0	73.7	69.0	77.6	74.8	87.9					
November	5.85	1.15	18	85.2	90.0	72.4	70.5	75.7	73.6	90.0					
December	9.44	2.00	17	82.5	89.0	72.1	70.0	74.9	73.3	92.6					
Total	69.91	20.08	157	..	..	..	..	..	..	..	..				
Mean	..	..	..	85.6	89.9	72.7	70.0	76.9	74.5	89.2					

## APPENDIX IIIIn

1972

## METEOROLOGICAL REPORT

Reading daily at 8.00 a.m. Local Time at Bukit Timah from 1-1-72 to 31-12-72

Month	Total Rainfall	Highest fall in 24 hours	No. of Days Rainfall	inches	inches	°F	°F	°F	°F	Mean Temp. Dry Bulb	Mean Temp. Wet Bulb	R.H.
January	2.49	1.10	5	83.7	88.0	71.3	69.0	74.0	71.8	89.3	89.3	90.7
February	8.38	2.04	12	86.0	90.9	72.5	70.0	75.7	73.7	88.9	88.9	88.9
March	6.75	2.02	8	86.2	90.1	72.7	70.0	75.9	73.5	87.5	87.5	87.5
April	11.72	1.89	19	86.6	91.0	73.3	70.0	79.0	76.1	81.5	81.5	81.5
May	3.52	0.69	10	87.2	91.0	75.8	71.0	81.0	77.5	86.7	86.7	86.7
June	4.31	1.18	10	86.6	88.5	75.7	71.0	80.1	77.1	85.8	85.8	85.8
July	1.79	0.99	5	87.5	89.3	77.0	73.2	80.0	76.9	87.3	87.3	87.3
August	6.93	2.55	13	87.2	90.5	74.8	68.8	79.5	76.9	87.9	87.9	87.9
September	13.12	4.10	9	86.4	89.0	74.4	71.0	78.9	76.3	85.0	85.0	85.0
October	4.65	0.80	14	88.4	90.4	75.2	72.0	79.0	76.5	84.7	84.7	84.7
November	8.18	2.10	18	86.2	90.0	71.4	71.0	80.8	75.9	89.1	89.1	89.1
December	12.51	3.33	20	84.1	90.0	72.5	69.0	77.2	74.8	..	..	..
Total	84.35	22.79	143	..	..	..	..	..	..	..	..	..
Mean	..	..	..	86.3	89.9	73.9	70.5	78.4	75.6	87.0	87.0	87.0

## APPENDIX IIIo

1973

## METEOROLOGICAL REPORT

Reading daily at 8.00 a.m. Local Time at Bukit Timah from 1-1-73 to 31-12-73

Month	Total Rainfall	Highest fall in 24 hours	No. of Days Rainfall	Mean Maximum Temp.	Highest Maximum Temp.	Mean Minimum Temp.	Lowest Minimum Temp.	Mean Temp. Dry Bulb	Mean Temp. Wet Bulb	R.H.	%
	inches	inches		°F	°F	°F	°F	°F	°F	°F	%
January	8.38	1.80	14	84.3	89.5	72.3	69.5	75.8	73.6	89.7	
February	10.09	3.47	16	85.6	90.5	73.0	70.5	76.5	74.6	91.2	
March	6.40	2.63	12	87.3	90.0	73.7	72.0	78.0	75.3	87.6	
April	8.15	1.46	20	87.6	90.0	74.8	72.5	79.4	76.8	88.7	
May	11.67	2.40	16	87.8	91.5	75.3	72.0	80.0	77.4	85.0	
June	3.18	0.92	11	86.7	90.0	75.7	68.0	80.0	77.0	86.7	
July	5.76	1.60	12	87.1	90.5	76.2	70.0	80.1	77.2	87.2	
August	9.11	3.00	19	85.5	90.0	74.1	71.0	78.1	75.7	88.9	
September	10.78	2.36	21	84.0	90.0	73.1	70.0	77.0	74.8	89.4	
October	13.60	4.00	16	86.7	90.0	74.1	69.0	78.5	75.6	87.1	
November	8.86	3.10	18	85.6	91.0	72.1	70.0	77.1	74.5	88.3	
December	6.55	2.29	16	82.2	89.0	71.8	70.0	75.1	73.0	90.3	
Total	102.53	29.03	191	..	..	..	..	..	..	..	..
Mean	..	..	..	85.9	90.2	73.9	70.4	78.0	75.5	88.3	

## APPENDIX IIIp

1969

## METEOROLOGICAL REPORT

KRANJI WAR GRAVES CEMETERY

Recorded daily at 8.00 a.m. from  
1-1-69 to 31-12-69

Month	Total Rainfall	No. of days with rain	Highest fall in 24 hours
	inches		inches
January ..	7.35	7	2.05
February ..	9.35	9	3.10
March ..	6.95	10	2.35
April ..	7.65	10	2.35
May ..	9.47	11	2.80
June ..	6.33	8	2.00
July ..	4.37	7	1.50
August ..	4.25	9	0.80
September ..	6.45	7	1.75
October ..	8.10	5	4.35
November ..	5.40	9	0.90
December ..	26.35	15	12.15
Total ..	102.02	107	36.10

1970

## METEOROLOGICAL REPORT

KRANJI WAR GRAVES CEMETERY

Recorded daily at 8.00 a.m. from  
1-1-70 to 31-12-70

Month	Total Rainfall	No. of days with rain	Highest fall in 24 hours
	inches		inches
January ..	5.58	10	2.45
February ..	4.93	5	1.75
March ..	11.20	10	3.05
April ..	6.65	10	1.50
May ..	11.48	17	2.00
June ..	10.78	13	2.10
July ..	10.40	9	2.90
August ..	4.28	9	1.05
September ..	4.25	7	0.85
October ..	8.45	13	1.20
November ..	13.47	12	5.06
December ..	11.83	15	2.00
Total ..	104.70	130	25.90

## APPENDIX IIIq

1971

## METEOROLOGICAL REPORT

KRANJI WAR GRAVES CEMETERY

Recorded daily at 8.00 a.m. from

1-1-71 to 31-12-71

Month	Total Rainfall	No. of days with rain	Highest fall in 24 hours
	inches		inches
January ..	3.55	7	0.75
February ..	5.49	6	1.95
March ..	3.73	6	1.65
April ..	0.48	3	0.18
May ..	2.47	7	1.50
June ..	6.65	10	1.78
July ..	7.48	7	3.00
August ..	10.10	18	1.94
September ..	5.06	9	1.15
October ..	8.25	17	1.69
November ..	8.65	16	1.43
December ..	7.26	14	3.65
Total ..	69.17	120	20.67

1972

## METEOROLOGICAL REPORT

KRANJI WAR GRAVES CEMETERY

Recorded daily at 8.00 a.m. from

1-1-72 to 31-12-72

Month	Total Rainfall	No. of days with rain	Highest fall in 24 hours
	inches		inches
January ..	1.40	4	0.81
February ..	8.93	12	2.30
March ..	2.33	8	0.66
April ..	9.73	16	2.08
May ..	4.50	10	1.29
June ..	4.19	8	1.07
July ..	0.94	3	0.68
August ..	5.22	13	0.80
September ..	9.73	13	2.18
October ..	0.83	12	1.16
November ..	8.19	15	1.72
December ..	8.65	19	2.01
Total ..	70.64	133	16.76

## APPENDIX IIIr

1973

## METEOROLOGICAL REPORT

KRANJI WAR GRAVES CEMETERY

Recorded daily at 8.00 a.m. from  
1-1-73 to 31-12-73

Month					Total Rainfall	No. of days with rain	Highest fall in 24 hours
January	..	..	..	..	7.91	13	1.91
February	..	..	..	..	8.02	16	1.56
March	..	..	..	..	8.98	9	1.32
April	..	..	..	..	11.77	16	2.33
May	..	..	..	..	8.16	15	2.30
June	..	..	..	..	5.20	11	1.51
July	..	..	..	..	5.87	9	2.60
August	..	..	..	..	10.01	17	2.66
September	..	..	..	..	9.26	17	2.30
October	..	..	..	..	9.81	11	2.90
November	..	..	..	..	8.43	15	2.50
December	..	..	..	..	6.23	14	2.40
				Total ..	99.65	163	26.29